School of Computing Science and Engineering
Course Name: Introduction to Digital Systems
Course Code: BEE01T1005

Unit III Question Bank

1. What are the classifications of sequential circuits?
2. What is the operation of D flip-flop?
3. What is flip-flop
4. Define Race Around Condition
5. Difference between latch and flip-flop
6. Define Propagation Delay
7. What is Master Slave Flip-flop
8. Explain Shift Registers
9. What are the applications of Flip-flops
10. What is state diagram
11. Write the truth table of clocked T- Flip Flop?
12. How many types of Registers are there?
13. Define different types of latches.
14. Write the differences between synchronous and asynchronous counters?
15. Define Flip-flop and various types of flip flops?

16. Explain the Logic diagram of JK flip-flop?
17. Write difference between Combinational & Sequential circuits?
18. Explain the Logic diagram of SR flip-flop?
19. Design and draw the 3 bit up-down synchronous counter?
20. Draw and explain the operation of D Flip-Flop?
21. Explain the working of Shift Registers?
22. Draw and explain the operation of SR LATCH?
23. Explain about Ring counter?
24. Explain about ripple counter?
25. What is state assignment? Explain with a suitable example?
26. Explain the working of the following
    i) J-K flip-flop ii) S- R flip-flop iii) D flip-flop
27. Explain the design of a 4 bit binary counter with parallel load in detail?
28. How does it set eliminate is a Master –slave J-K flip-flop?
29. Explain synchronous and ripple counters compare their merits and demerits?
30. Design a 4 bit binary synchronous counters with D-flip flop?